

- 1 1. A method for processing link state routing control messages by a network node,
2 comprising:
3 identifying predetermined types of control messages;
4 storing each of the types of identified control messages in a respective one of a
5 plurality of message queues;
6 assigning a weight to each of the respective message queues; and
7 processing the queued messages in a predetermined sequence such that each
8 message type is allotted a predetermined amount of processing time.
- 1 2. The method according to claim 1, further including generating a round robin
2 weighted polling table from the message queues.
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- 1 3. The method according to claim 2, wherein a number of entries in the round robin
2 polling table corresponds to a sum of the weights assigned to the message queues.
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- 1 4. The method according to claim 3, further including positioning the entries in the
2 round robin polling table so as to minimize a distance between multiple entries
3 corresponding to the same message type queue.
- 1 5. The method according to claim 1, wherein the predetermined types of control
2 messages include OSPF HELLO, LSA, and LSA acknowledgement messages sent
3 from further nodes.
- 1 6. The method according to claim 5, wherein the predetermined types of control
2 messages further include OSPF HELLO refresh, LSA refresh, and LSA
3 retransmission messages generated by the node.

- 1 7. The method according to claim 1, further including identifying at least one of the
2 predetermined types of control messages by examining a value in a packet header
3 of the control messages.
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- 1 8. The method according to claim 1, further including specifying a maximum
2 processing time for processing a queued message during a visit to the queues.
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- 1 9. A method for processing link state routing control messages by a node in a
2 network, comprising:
3 identifying predetermined routing control message types based upon a value in a
4 header of routing control messages received by the node;
5 identifying predetermined routing control messages generated by the node;
6 storing each type of identified routing control message in a corresponding one of a
7 plurality of message queues;
8 assigning a weight to each of the message queues;
9 generating a round robin polling table having a number of entries corresponding to
10 the weights assigned to the message type queues; and
11 processing the entries in the round robin polling table such that a predetermined
12 amount of processing power is allotted to each of the message queues.
- 1 10. The method according to claim 9, wherein the link state protocol is selected from
2 the group consisting of OSPF and PNNI.
- 1 11. The method according to claim 9, further including minimizing a distance between
2 entries in the polling table that correspond to the same message queue.

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1 12. A link state network, comprising:
2 a plurality of nodes each including a node processor for identifying predetermined
3 types of routing control messages and storing each type of identified message in a
4 respective weighted queue such that the node processor processes each message type with
5 a predetermined amount of processing power; and
6 a weighting processor for assigning weights to each of the respective queues.

1 13. The network according to claim 12, wherein the node processor generates a
2 weighted round robin polling table from the messages queues.

1 14. The network according to claim 13, wherein a number of entries in the round robin
2 polling table corresponds to a sum of the weights assigned to the message queues.

1 15. A node, comprising:
2 a node processor for identifying predetermined types of link state routing control
3 messages and storing each type of identified message in a respective weighted queue such
4 that the node processor processes each message type with a predetermined processing
5 power.

1 16. The node according to claim 15, wherein the node processor generates a weighted
2 round robin polling table from the message queues.

1 17. The node according to claim 16, wherein a number of entries in the round robin
2 polling table corresponds to the weights assigned to the message queues.

1 18. The node according to claim 15, wherein the predetermined types of link state
2 routing messages include OSPF HELLO, LSA, LSA acknowledgement, HELLO
3 refresh, LSA refresh, and LSA retransmission messages.

1 19. The node according to claim 15, wherein the node processor includes a weighting
2 processor for determining the weights of the respective message queues.

1 20. The node according to claim 15, wherein the node forms a part of a network that
2 utilizes a link state protocol selected from the group consisting of OSPF and
3 PNNI.

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